

MRSA Decolonization

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ECU Health Quality Improvement Symposium

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Background



Screen and isolate strategies for MRSA are expensive.
Compliance with personal protective equipment is a significant barrier.



Available evidence suggest decolonization strategies can be more effective at reducing MRSA transmission while costing less money.

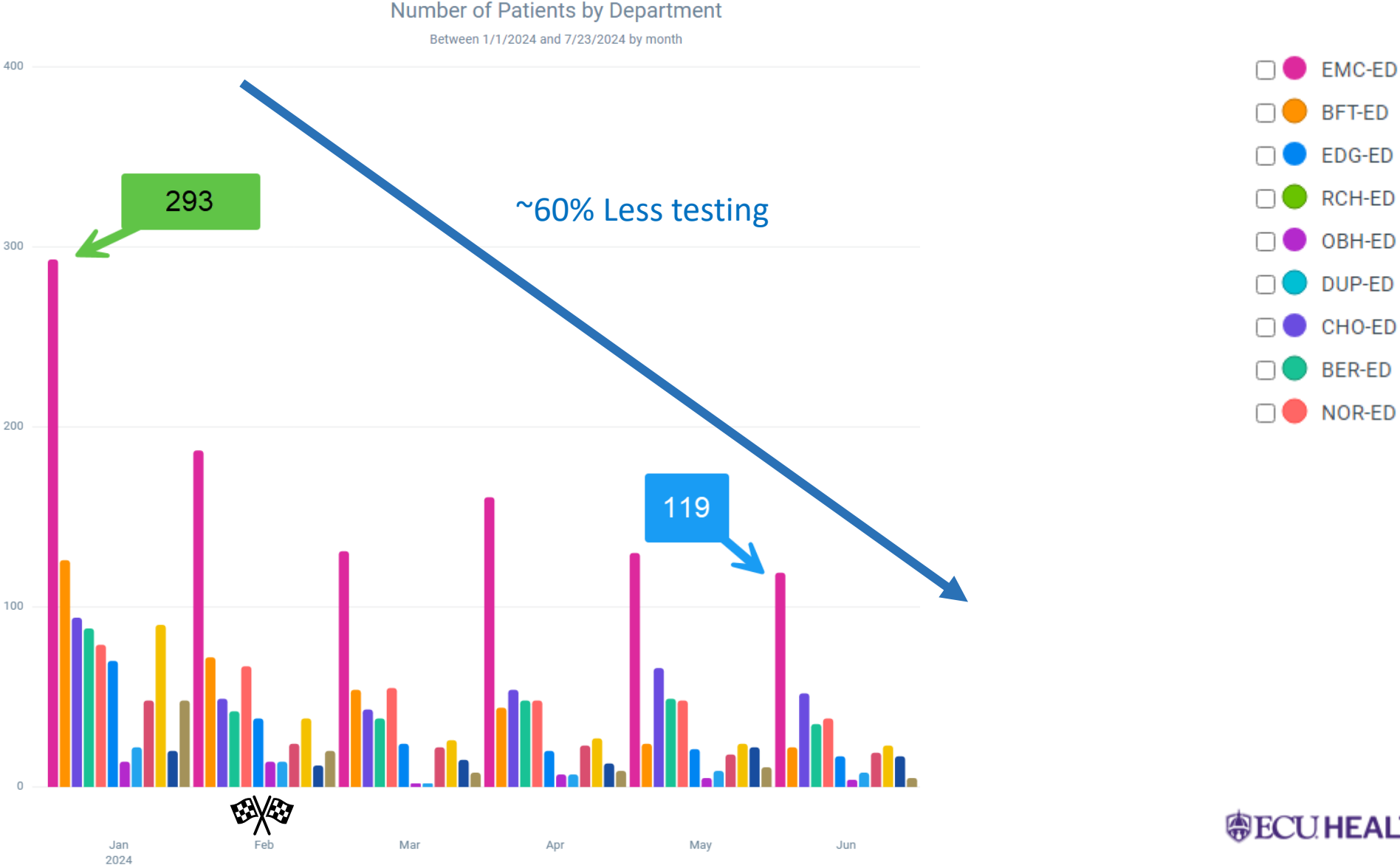


Decreasing isolation can improve patient experience by removing barriers to healthcare worker patient contact.

Aim Statements

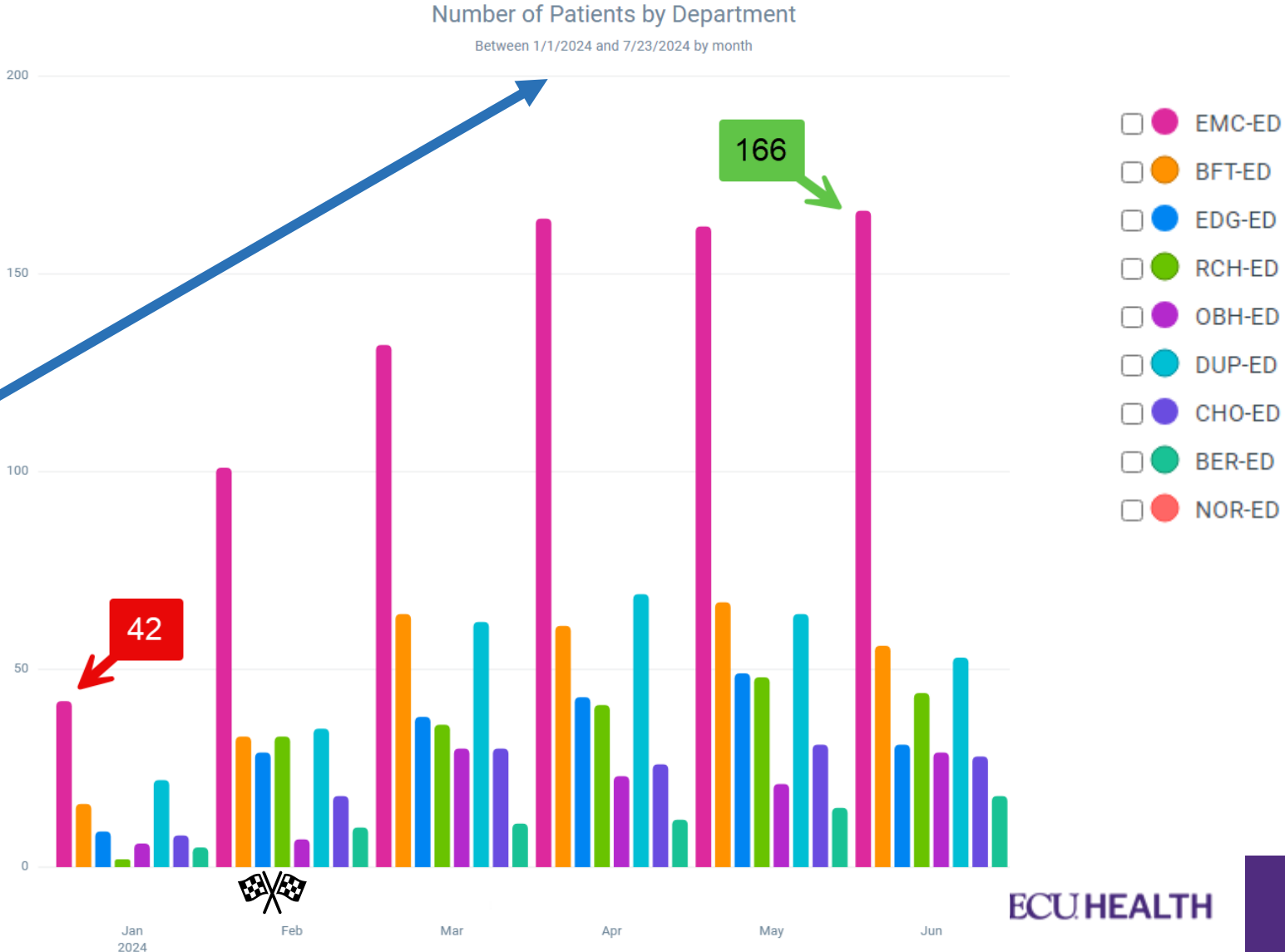
- Decrease MRSA Nares screening by 50% within 3 months of go-live in February 2024.
 - Increase MRSA decolonization proportionally within the same timeframe.
- Achieve cost savings goal of around \$200,000 per year.

MRSA Nares Testing by facility ED



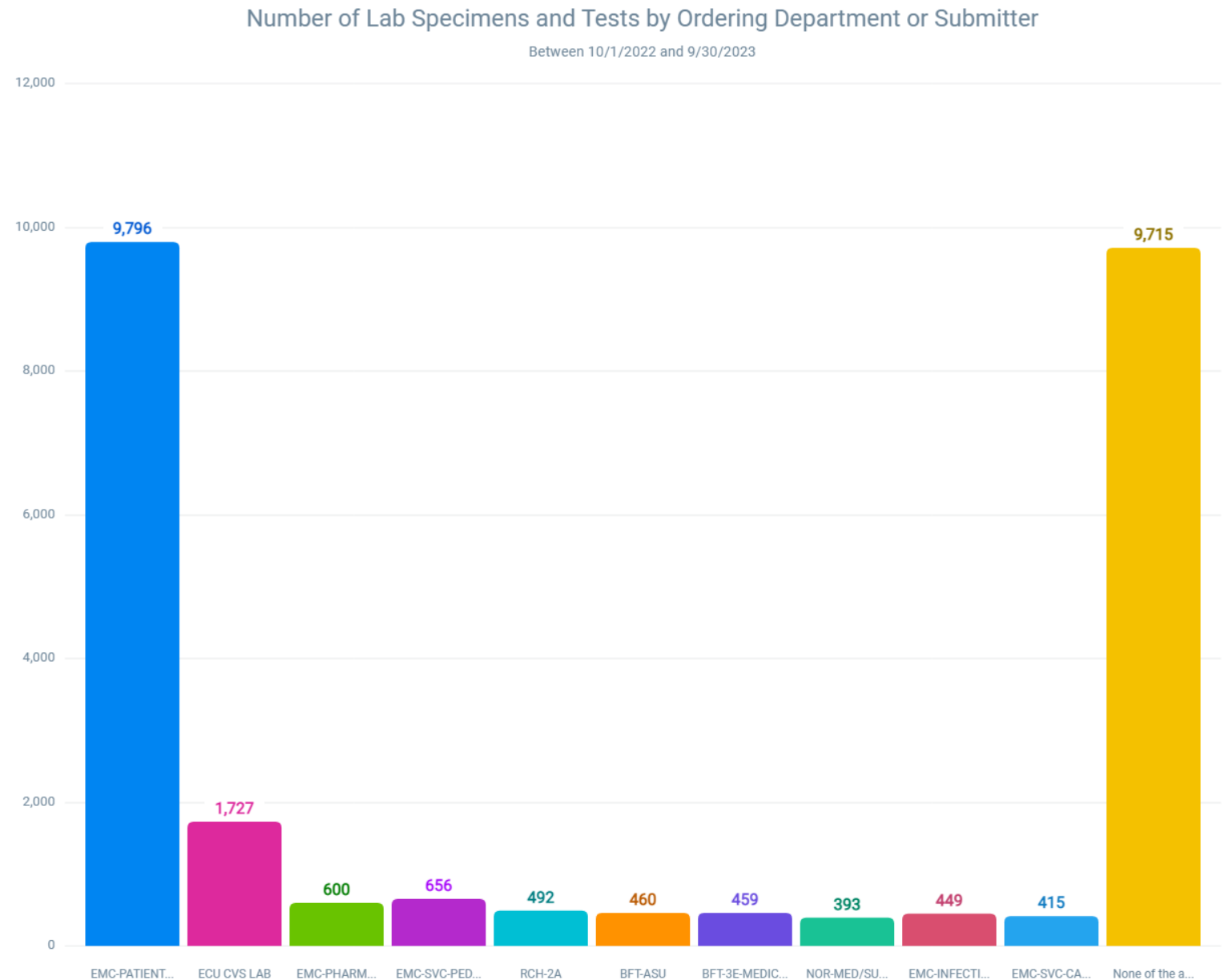
Mupirocin (Bactroban) utilization

4x more Decolonization

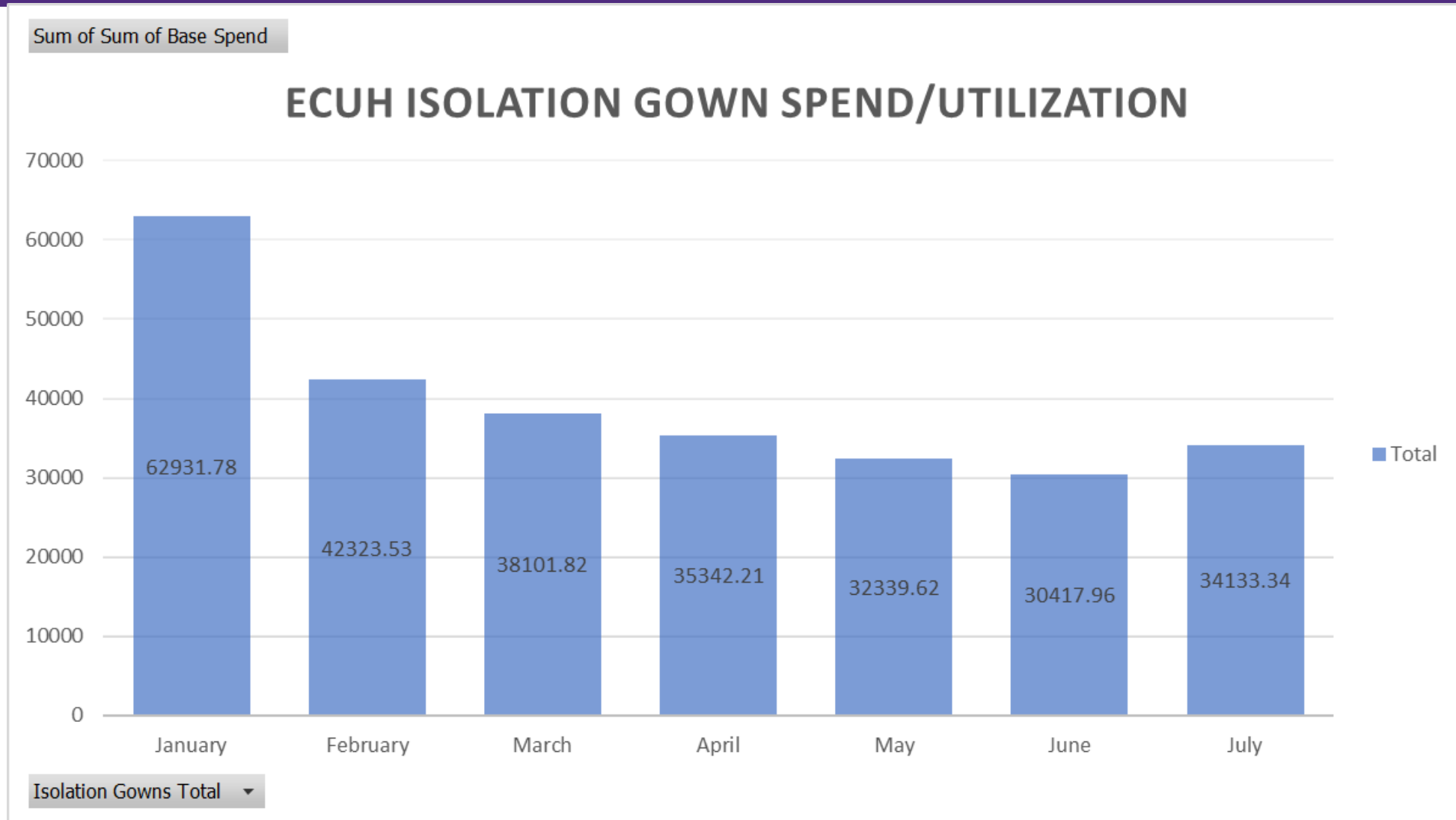


Cost

- **5 day course of mupirocin ~\$5**
- **CHG wipe pack ~\$2 x 5**
- **MRSA nares screen ~\$30**
- **25,162 orders in FY '23**
 - **12,179 per-operative + Peds**
 - **12,983 remaining**
 - **\$15 x 12,983 = \$194,745**
 - **Additional Gown Savings**
 - **Over \$300k per year**

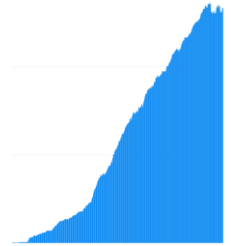
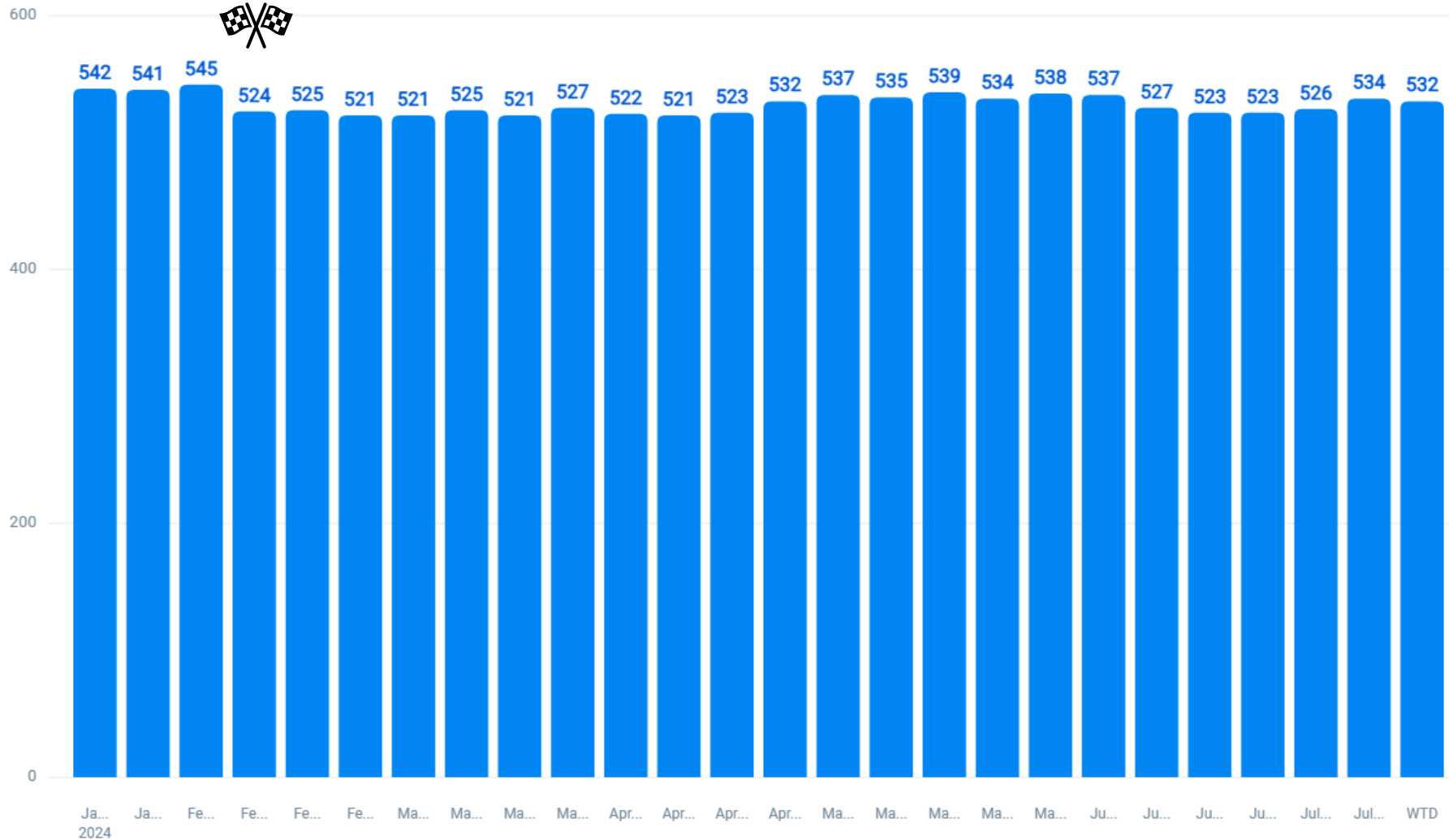


Isolation gown utilization



MRSA at ECU Health

Positive MRSA Clinical Cultures

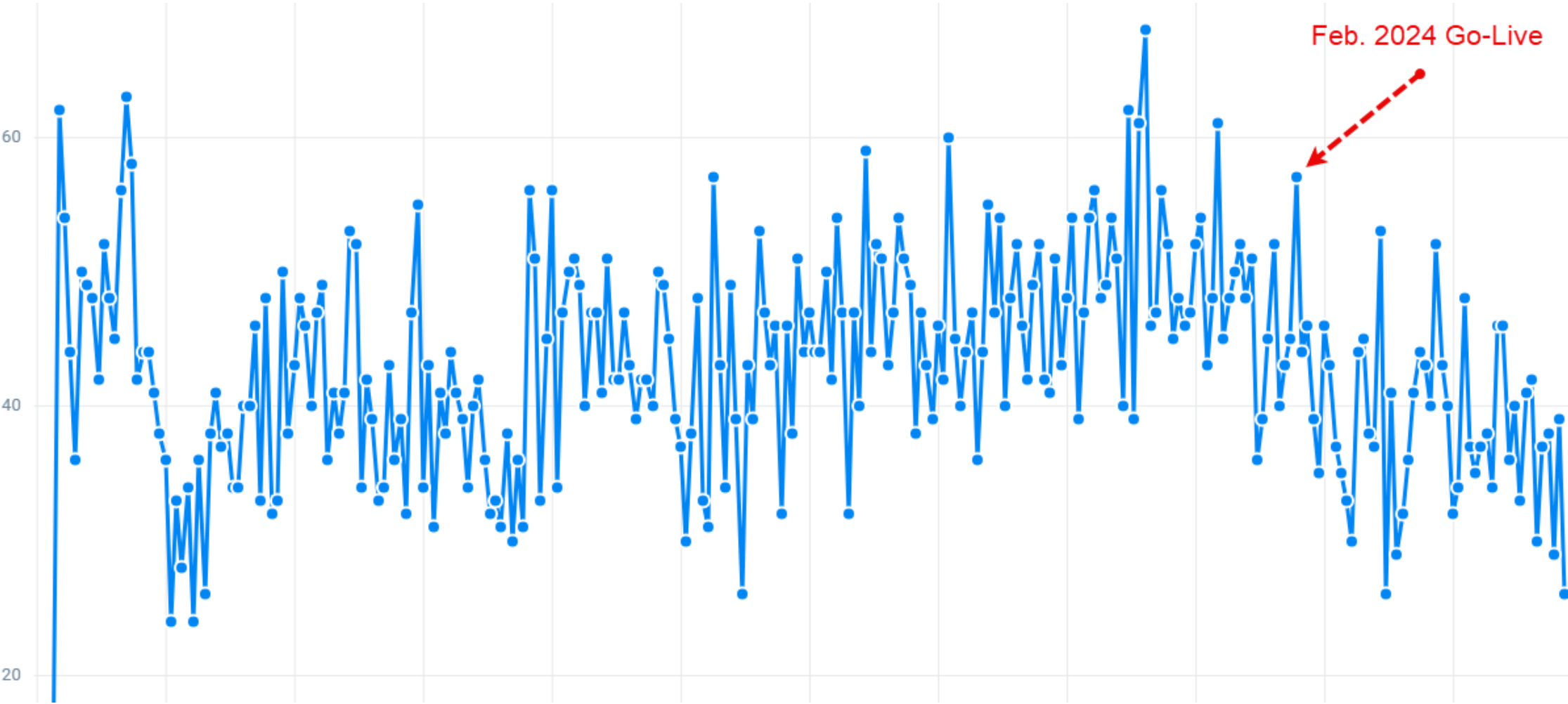


MRSA

Specimen Type

- Blood
- Bone
- Aspirate
- Abscess Aspirate
- Breast
- Bronchial Alveolar Lavage
- Bronchial Washing
- Catheter Tip
- Drainage Swab
- PLEURAL FLUID
- Sputum
- Tissue
- Synovial Fluid
- Wound Aspirate
- Wound Drainage

Patients with MRSA infection at ECU Health 2019-2024



Patient population

ECU Health IC25 MRSA Screening-Decolonization & Isolation

Decolonization of Adult Patient at High Risk for MRSA

A. A Best Practice Advisory (BPA) in the Electronic Health Record (EHR) triggers when any of the following criteria are met:

1. Patients identified in the Patient Admission Screen Doc Flowsheet (PAS) as one of the following high risk groups:

- a. Patients transferred from other hospitals after being in another hospital \geq 4 days
- b. Patients admitted from other facilities, such as Nursing Home, Long Term Care Facility, Correctional Facility, Assisted Living, Skilled Nursing Facility, and Group Home
- c. Patients admitted from home with Home Health (HHH)
- d. Patients on any type of Dialysis
- e. Previous MRSA
- f. Patients with indwelling central venous catheters ***New**

Process



+



Daily

5 Days



Order Sets

Order Sets

Order Sets

Orders

Clear All Orders

COR IP: MRSA Decolonization Protocol - Adult

Remove Order Sets

Nursing

Nursing Orders

CHG Bath Daily for MRSA Decolonization
DAILY, First occurrence today at 1019, For 5 days, Routine

Medications

Medications

mupirocin (BACTROBAN) 2 % ointment 1 Application
1 Application , Topical, TWICE A DAY, First dose today at 1020, For 10 doses
Use 1/4 inch onto sterile cotton tip applicator and swab inside of the nare. Press nare for 1 minute to release ointment. Repeat instructions for other nare. Use separate cotton tip applicator per nare. Use for five days. (Please send remainder home with patient). Qty: 22 gram tube. No refill. Do not use after:____-____-____. Dispensed by:

Discharge Planning

Discharge Instructions
ONCE, today at 1019, For 1 occurrence, Routine
Instructions: Provide Patient with Individualized Discharge Instructions for Continued Decolonization.
Send the patient home with the supplies that have been provided.

Ad hoc Orders

Search for additional order set orders

You can search for an order by typing in the header of this section.

Manage Orders Order Sets

Options

Edit Multiple Phase of Care

Place orders or order sets New Next

Held medications need review

This patient has active treatment/therapy plans.

Orders from Order Sets

COR IP: MRSA Decolonization Protocol - Adult

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Improvement Strategies Employed

- PDSA Cycle #1- February 2024 – July 2024
 - Go-live in February 2024, BPA for MRSA screening replaced with BPA for MRSA decolonization MRSA nursing protocol. Central line order sets updated with MRSA decolonization orders. Infection prevention no longer implements contact precautions for MRSA decolonization.
- PDSA Cycle #2- July 2024-December 2024
 - Pilot of Iodine-based MRSA decolonization in orthopedic surgery (separate presentation).

Outcomes



Reduction in MRSA screening by 60% with proportional increase in MRSA decolonization



Clinical infections with MRSA are declining



Orthopedic surgery voting to adopt MRSA decolonization for joint replacement surgery



Estimated annual cost savings of over \$500,000 per year

Lessons Learned

There are many central line order sets; some cross-over with outpatient and pediatric settings

General feedback from team members has been that decolonization is preferred over the old strategy.

There are significant costs associated with MRSA screening and isolation.

Improvements in MRSA infections do not necessarily correlate with Lab-ID MRSA bacteremia NHSN / CMS metric

Next Steps



Continue to track compliance of decolonization and MRSA screening test utilization

Continue to track clinical MRSA cultures.

Permanent adoption of nasal decolonization product for all orthopedic surgical patients

Work with IS to develop decision support for MRSA decolonization for patients with central lines

Roll out nasal decolonization to other surgical service lines and system hospitals

Questions?

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